also in this edition:

Comparing ERP Supply-Chain Management Solutions Railroads and Wagons: the Defeat of the South Inside Logistics

Candid Voices

AFIT



Centralized Purchasing Power: Why Air Force

Leadership Should Care

Funding Support: Capabilities-Based

Programming



Volume XXVIV, Number 1 Spring 2005

AIR FORCE JOURNAL of LOGISTICS

Volume XXVIV, Number 1 Spring 2005 **AFRP 25-1**

SPECIAL FEATURES—Funding and Purchasing Logistics

Centralize Purchasing Power: Why Air Force Leadership Should Care

Major David L. Reese, USAF Major Douglas W. Pohlman, USAF

Funding Support: Capabilities-Based Programming 16

> Major Dane P. West, USAF Major Douglas W. Pohlman, USAF

CONTEMPORARY ISSUES

Comparing ERP Supply-Chain Management Solutions 28

Captain Patrick S. Holland, USAF Major Kirk A. Patterson, USAF William A. Cunningham III, PhD

LESSONS FROM HISTORY

32 Railroads and Wagons: the Defeat of the South

Robin Higham, PhD

DEPARTMENTS

Candid Voices 35

Sure It Is Effective, but Is It Suitable?

Captain John W. Garrison, USAF Master Sergeant Stephen W. Clav. USAF Technical Sergeant Jeffrey J. Kile, USAF

Agile Combat Support: Linking Support and Logistics to Operations

Captain Robert C. Bearden, USAF

Inside Logistics 40

Smarter Not Harder: Improving the Wheel and Tire

Buildup Process

Captain Jason York, USAF

First Lieutenant Garrett Knowlan, USAF

High-Altitude Intercontinental Precision Airdrop:

A Revolution in Mobility Affairs

(Could AMC Learn from the B-2 PGM Model?)

Major Peter A. Garretson, USAF

Air Force Institute of Technology 45

An Alternative Vision for CBM+ for the Air Force

Bill Hale



General John P. Jumper Air Force Chief of Staff

Lieutenant General Donald J. Wetekam Deputy Chief of Staff, Installations and Logistics

Colonel Sean P. Cassidy Commander Air Force Logistics Management Agency

Editor-in-Chief James C. Rainey Air Force Logistics Management Agency

Editors Beth F. Scott Air Force Logistics Management Agency Air Force Logistics Management Agency

New Journal Telephone Numbers - DSN 596-2335/2357 or Commercial (334) 416-2335/2357

The Air Force Journal of Logistics (AFJL), published quarterly, is the professional logistics publication of the United States Air Force. It provides an open forum for presenting research, innovative thinking, and ideas and issues of concern to the entire Air Force logistics community. It is a nondirective publication. The views and opinions expressed in the Journal are those of the author and do not necessarily represent the established policy of the Department of Defense, Department of the Air Force, the Air Force Logistics Management Agency, or the organization where the author works.

The Journal is a refereed journal. Manuscripts are subject to expert and peer review, internally and externally, to ensure technical competence, accuracy, reflection of existing policy, and proper regard for security.

The publication of the Journal, as determined by the Secretary of the Air Force, is necessary in the transaction of the public business as required by the law of the department. The Secretary of the Air Force approved the use of funds to print the Journal, 17 July 1986, in accordance with applicable directives.

US Government organizations should contact the AFJL editorial staff for ordering information: DSN 596-3357/3557 or Commercial (334) 416-3357/3557. Journal subscriptions are available through the Superintendent of Documents, US Government Printing Office, Washington DC 20402. Annual rates are \$15.00 domestic and \$18.75 outside the United States. Electronic versions of the Journal are available via the World Wide Web at: http://www.aflma.hq.af.mil/lgj/Afjlhome.html. The Journal editorial staff maintains a limited supply

Unsolicited manuscripts are welcome from any source (civilian or military). They should be from 1,500 to 5,500 words. The preferred method of submission is via electronic mail (e-mail) to: editor-AFJL@maxwell.af.mil. Manuscripts can also be submitted in hard copy. They should be addressed to the Air Force Journal of Logistics, 501 Ward Street, Gunter Annex, Maxwell AFB, AL 36114-3236. If hard copy is sent, a 3.5-inch disk, zip disk, or compact disk containing an electronic version of the manuscript should accompany it. Regardless of the method of submission, the basic manuscript should be in Microsoft Word or WordPerfect format, and all supporting tables, figures, graphs, or graphics must be provided in separate files (preferably created in Microsoft Office® products; if Microsoft Excel is used to create any of the charts or figures, the original Excel file must be supplied). They should not be embedded in the manuscript. All submissions will be edited in accordance with the AFJL Manual for Style.

Articles in this edition may be reproduced in whole or in part without permission. If reproduced or reprinted, the courtesy line "Originally published in the Air Force Journal of Logistics" should be included.

funding and purchasing logistics

Centralized Purchasing Power: Why Air Force Leadership Should Care Funding Support: Capabilities-Based Programming

This edition begins with "Centralize Purchasing Power: Why Air Force Leadership Should Care." In this illustrative piece the authors make a number of valid points. Meaningful institutional change toward centralized purchasing fundamentally can improve the Air Force's effectiveness and efficiency. Using the commercial best practice of *commodity* councils, Air Force contracting has the opportunity to transition to a construct of strategic leverage quickly while minimizing the negative impact of radical change upon overarching Air Force operations. Within today's contracting structure, the basic hierarchy already exists, which could support this recombination of people, networks, culture, processes, and structure. The senior contracting representatives within the Air Force's headquarters and major command structures could transition easily to more strategic roles if the Air Force focused the appropriate level of attention on this issue. Air Force contracting has to move beyond tactical sourcing and compliance-oriented oversight, and contracting personnel have to get in front of user's requirements and be prepared to respond to customer requirements via a quick, seamless, and transparent methodology. Immediate further study is warranted in this regard.

The second feature, "Funding Support: Capabilites-Based Programming," looks at the question "Can a method be developed to assist squadron and group logistics commanders to secure required mission funding?" The author's answer is a resounding yes. Squadrons and groups must invest time and thought to compete effectively for funding resources at the MAJCOM, Air Force, and DoD levels. In other words, they spend the time to determine the requirements necessary to support the peacetime and wartime missions as well as the thought in applying the financial resources in a traceable manner. The key is to establish the fundamental requirements supporting the peacetime and wartime missions. When established, the requirements clarify not only the shortfalls identified from the logistics perspective but also mission impact to senior leadership. Once leadership understands the implications to the mission, more effective prioritization of resources throughout the unit is achieved more easily.

Editor's Note—Prologue to "Centralized Purchasing Power: Why Air Force Leadership Should Care"

In May 2004 when Majors Reese and Pohlman completed, "Centralized Purchasing Power: Why Air Force Leadership Should Care," the Air Force had just completed a 14-month effort to reengineer Air Force Materiel Command (AFMC) sustainment business processes. This transformation effort, culminates several years of aggressive change to AFMC's sustainment acquisition processes—strategic sourcing, purchasing and supply chain management (PSCM), and

commodity councils. AFMC developed a roadmap for commodity councils including organizational design, resource requirements, position descriptions, training requirements, and a spiral implementation plan. Since February 2004, they have stood up eight sustainment commodity councils. These councils are focused on support equipment, secondary power, propulsion, landing gears, aircraft accessories, instruments, electronics/communications, and aircraft structures. The spend for them ranges from \$334 for the Secondary Power Commodity Council to more than \$4.2B for Propulsion. Overall, the eight commodity councils manage 91.9 percent of total AFMC sustainment dollars (\$10.3B for fiscal years 2001-2003).

AFMC's initial strategic sourcing efforts resulted in the award of 28 contracts. One example is a contract awarded to Hamilton Sundstrand to support Air Force and Defense Logistics Agency managed items. This award reduced the total number of contracts for these items from 224 to 1, reduced acquisition lead time from 106 to 10 days, and reduced prices by 10 percent. It's expected the savings will be \$116M over the life of the contract.

The Support Equipment Commodity Council reduced proliferation of oscilloscope configurations from 190 to 3. Total contracts have been reduced from 14 to 1. The Secondary Power Commodity Council is executing a strategy whereby a supplier provides all auxiliary power unit support to AFMC's organic depots on a fixed hourly basis, including parts This reduced the number of repair contracts from 83 to 5.

AFMC is also actively participating in establishing Department of Defense-level commodity councils for bearings and microelectronics.

At the Air Force level, improved strategic sourcing includes establishing Information Technology and Medical Services Commodity Councils.

Another important element of PSCM is improving supplier relations. Under the Strategic Supplier Relationship Management (SSRM) initiative, AFMC assigned senior civilians to manage the relationship with its top 21 suppliers. These suppliers represent approximately 92.5 percent of AFMC's total spend for spares and repairs. In Aug 2004, General Gregory Martin, AFMC Commander, convened a Strategic Supplier Executive Summit with senior executives from the Top 21 suppliers, air logistic center commanders, and the senior civilians involved in the SSRM initiative to share his vision concerning supplier relationship management and commodity councils. The second Strategic Supplier Executive Summit is scheduled for Oct 2005. Its purpose will be to review progress and introduce a supplier scorecard.

AFMC is on the path to meeting Air Force transformation goals—20 percent reduction in materiel costs, 20 percent increase in materiel availability, and a 50 percent reduction in cycle time.



Introduction

If you are short of everything but the enemy, you are in the combat zone.

—Anonymous

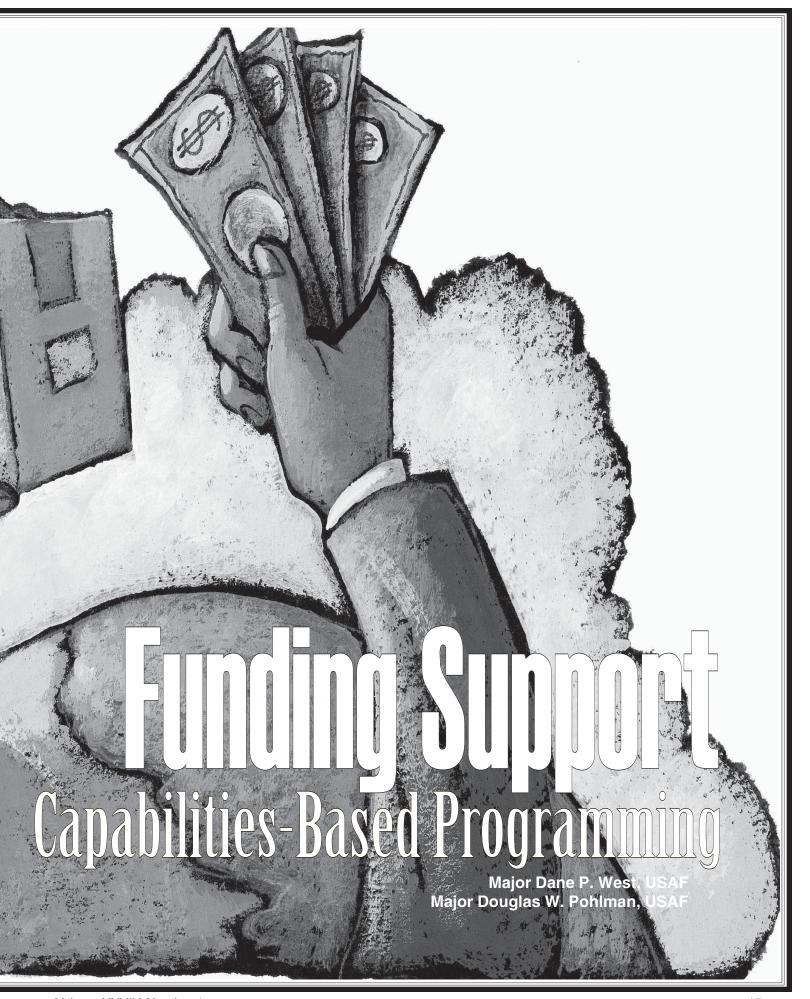
Logistics leaders are charged with organizing, training, and equipping

units under their command. Of these three duties, *organizing* is the only one without a recurring price tag. Training and equipping are, by definition, a cost-dependent activity. There is no great secret to securing funding, merely the investment of time and analysis to capture what logistics requirements (combat capability) support peacetime training, wartime deployment, prosecution of targets, and redeployment of forces. Clear, concise justifications need to be written to restate those requirements in *budgeting* language. This justification conveys how to quantify

logistics requirements, evaluate levels of mission supportability, report mission capability, and compete more effectively for scarce non-noncost-per-flying hour funding resources at the squadron and group level.

Quantifying logistics requirements is the key to raising the pursuit of funding from the gray zone to a meaningful discussion of capability. Too often, base-level fund review boards roll critical repair, replacement, or new construction of logistics facilities into head-to-head competitions with services, security forces, and communications objectives without objective data on combat capability. Likewise, elements of capability already identified in maintenance units typically are rolled up into flying squadrons' Status of Resources and Training System (SORTS) reports, subjecting their combat status to watering down shortfall impacts on combat capability. These are the product of information voids affecting funding decisions. It falls on the maintenance group and subordinate squadrons to identify what the unit's mission is, what requirements support the mission, and how the existing shortfalls impact the mission. These data must be packaged in the form that wing, numbered air force, and major command (MAJCOM) leadership recognizes as significant: mission capability. The current discussion needs to change from "how much money do you (maintenance group) want" to "what capability can you (wing commander) afford." For wartime taskings, the conversation needs to follow a structure of goals and cost: if the SORTS readiness goal is full wartime mission capable (C-1),1 the price is \$\$\$\$; if the readiness goal is many, but not all, portions of the wartime mission (C-3),2 then the price is \$\$ and so on. The effect is electrifying when reflecting on the age-old question, "What happens if I cut your funding 10 percent," and the reply is in terms of capability, not some subjective discourse on workarounds.





Can a method be developed to assist squadron and group logistics commanders to secure required mission funding? The answer lies in taking a *general to specific* approach, starting with an understanding of *budget language* as a first step. ⁴ As seen in Figure 1, the sample program objective memorandum (POM) summary slide lists approved funding levels, proposed budget

amendments, and the associated revised totals out to fiscal year (FY) 2011 for a particular change control number action. The slide also identifies any supporting equipment purchases and adjustments in manning authorizations. In this sample RAPIDS slide, the proposed action is to plus-up FY10 and FY11 \$50.8M and \$51.3M respectively with a purchase of two additional

engines in the same year groups.5

Within the RAPIDS are additional slides that identify program element codes targeted for modification. The slides detail the affected appropriations and cost codes for just the future years' defense programs (FYDP) (Figure 2).6

Both Figures 1 and 2 represent the method by which the Air Force decides which program will receive funding in the outyears. The program element code used in this sample impacts the F-16 fighter program (PEC 27133F) with proposed funding changes in the Advance Missile Procurement (cost code 20021), Munitions and Associated Equipment (cost code 81000), Depot-Level Repair (cost code 64560), and Aircraft Purchase (cost code 10001) programs. However, why this program was funded over others cannot be identified. That is the dilemma. The day-to-day concerns at the group and squadron level can be lost in the funding process. Units' individual shortfalls and their impacts simply are not described at this high level. To succeed in securing funds, logistics requirements must be translated into language meaningful to the budget leadership.

The key to translating requirements into effective budget requests is the Resource Allocation Model (RAM).8 RAM can be used at the MAJCOM level as a means of collecting wing, numbered air force, and staff inputs; sorting and establishing the priorities; and then deciding which shortfalls are funded from the limited MAJCOM budget. The RAM process is built on a fundamental value of capability. As seen in Figure 3, capability is described in a range less than or equal to 0.7 and up to a value of 1.1.9

Unclassified FY06 POM Baseline Ext

BACKGROUND:

(U) The purpose of the FY06 POM Round 1 Baseline Extension is to extend all approved AF programs in the F&FP ABIDES Database for FY10 and FY11 using the current approved inflation factors.

ADJUSTMENT:

(U) The FY06 POM Baseline Extension, Rd 1, will extend approved programs through FY10 and FY11. All ZBTs, disconnects, initiatives, and offsets will be addressed in Round 2.

<u>\$M:</u> 06R1T101AN	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
CURRENT PRG	50.0	50.0	50.0	50.0	50.0	50.0	0.0	0.0
ADJUSTMENT			0.0	0.0	0.0	0.0	50.8	51.3
REV PGM TOTAL			50.0	50.0	50.0	50.0	50.8	51.3

PROCUREMENT	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	MPWR.	FY0
Engines	0	0	0	0	0	0	2	2	OFF	0
									ENL	0

IMPACTS

- (U) All requirements for baseline extension will be presented to the AFG, but only programs greater than \$100M annually will be briefed
- (U) Panels are responsible for extending all investment appns (3010, 3011, 3020, 3080, and 3600, except cost-categories 39*** and 595**) and new mission MILCON. All other MILCON will be extended by ILEP.
- (U) FMB will extend O&M, Appn 02 Buy Quantity, inflate all O&M based on MDS/PDS DB and include it in the FY06 POM Baseline for Rd 1 start position
- (U) Panels will be required to submit a separate RAPIDS CCN to change O&M, coordinate change with PDS/MDS
- DB POCs and brief to the AFG for approval

Unclassified

Figure 1. POM Change Control Number

Unclassified 06R1T101AN FY06 POM Baseline Ext ADJUSTMENT: (U) The FY06 POM Baseline Extension, Rd 1, will extend approved programs through FY10 and FY11. All ZBTs, disconnects, initiatives, and offsets will be addressed in Funding Lines Total \$0.000 \$0.000 \$0.000 \$0.000 \$50.800 \$51.300 APPNCOSTPROG OAC WSC/BPAC FY2006 FY2007 FY2008 FY2009 FY2010 FY2011 27133f3020 20021 aq1000 78 000000 0.000 0.000 0.000 0.000 15.200 15.400 27133f3080 81000 aq1000 78 000000 0.000 0.000 0.000 0.000 14.000 14.100 27133f3600 64560 aq1000 78 000000 0.000 0.000 0.000 0.000 9.000 9.100 27133f3010 10001 aq1000 78 000000 0.000 0.000 0.000 0.000 12.600 12.700 FY2004 FY2005 FY2006 FY2007 FY2008 FY2009 FY2010 FY2011 **Procurement** n n 2 2 **Engines** Ω n n n Coordination Panel Chair: Program Element Mtr: Panel POC: 3080 FM Appn Manager CONOP Champion: 3600 FM Appn Manager Crosscut Panel: 3010 FM Apn Manager IPT Chief: 3080 ILPY Manager XPPE DB Manager: ANG/AFR: ZBT Manager: **Unclassified** 1/5/042004 Page 1

Figure 2. PEC Summary Slide

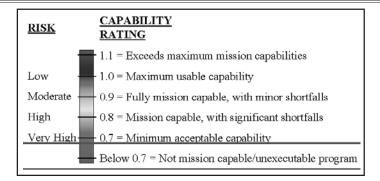


Figure 3. RAM Capability Definitions

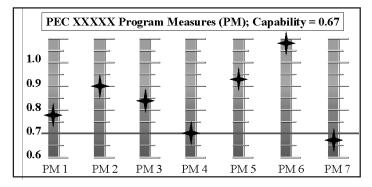


Figure 4. PMs Supporting the PEC

Each measurement of capability is then applied to the item of interest. At the MAJCOM level, this building block is organized around the program element code. As seen in Figure 4, the program element code is broken down into the main funding elements resident within the PEC's scope, and the representative performance measures (PM) are combined to determine the overall health of the program element code. Performance measures are key measures that capture contributing capabilities within a program element code and provide clear visibility as to where funding can impact a PEC's capability. In a car, for instance, the performance measures could be the drive train, suspension, fuel system, electronic system, hydraulic system, body, and interior. The weight of each performance measure would be determined by its contribution to the overall capability of the program element code, independent of the financial value. For instance, in the car example, the weight of the drive train would exceed the weight of the interior relative to the car's capability. In Figure 4, there are seven different program managers who are contributing to the capability of the program element code, but as in the case of the car, the overall capability of 0.67 for the program element code is based on its characteristics. There are cases where a PEC's capability might be determined by averaging PM capabilities, but the impact of funding tends to be less clear than a weighted approach.¹⁰ In this case, the majority of performance measures are 0.7 or greater; however, PM 7 is so critical to the program that the program element code is valued as not mission capable.

In the next step, the overall impact of each performance measure to the program element code is determined and displayed in the form of financial impact (Figure 5). In this example, the current budget buys an overall capability of 0.67, and if PM 7 is increased by \$1.2K, then the capability rises to 0.7. The program element monitor (PEM) has responsibility for managing the program

Article Highlights

Logistics leaders are charged with the duty to organize, train and equip the units under their command.

quadrons and groups must invest time and thought to compete effectively for funding resources at the MAJCOM, Air Force, and DoD levels. In other words, they spend the time to determine the requirements necessary to support the peacetime and wartime missions, as well as the thought in applying the financial resources in a traceable manner. The key is to establish the fundamental requirements supporting the peacetime and wartime missions. When established, the requirements clarify not only the shortfalls identified from the logistics perspective but also mission impact to senior leadership. Once leadership understands the implications to the mission, more effective prioritization of resources through the unit is achieved more easily

element code and will attempt first to reflow funds within the program element code to raise all performance measures to 0.7 (minimum acceptable capability to perform the function or mission). Using Figure 5, the reflow could pull \$225K from PM

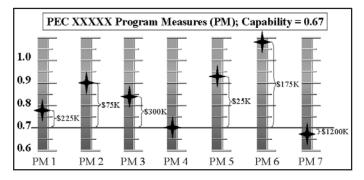


Figure 5. PM Budget Margins and Overall Capability

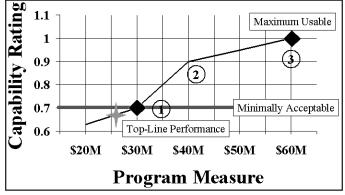


Figure 6. PEC Performance Value

1, \$75K from PM 2, \$300K from PM 3, \$25K from PM 5, and \$175K from PM 6 for a total of \$800K to flow to PM 7, while lowering the *donating* performance measures to a capability level of 0.7 (minimum acceptable). In this case, however, PM 7 still needs \$400K to achieve the minimum 0.7 capability. Given the capability shortfall, the program element monitor will need to compete for additional funds within the MAJCOM's budget decision process to fill the requirement.¹¹

When the program element monitor presents the request to the MAJCOM for additional funding, the MAJCOM leadership needs more information from the RAM process to determine the best budgeting course of action. Specifically, leadership needs to understand what needs to be funded, when the funding should be available, and where the funding should be applied to get the best performance value. To answer these questions, the RAM process uses performance value as a means of communicating the price of capability. Figure 6 quantifies the performance value of the program through key variables. 12 Top Line Performance (the star) is the value of the current funding level of \$25.6M and its relative capability. Minimally Acceptable identifies the minimum amount of funding required to achieve 0.7 capability (\$30M), and a fully capable program is achieved at *Maximum* Usable or \$60M. Breakpoints (1, 2, 3) represent funding opportunities (possibly equipment purchases, building updates, and so on), clearly identifying the capability purchased with each increment of funding. Performance value captures the impact of funding for a single fiscal year, so six performance value charts are required to represent the program's performance in the RAM over the FYDP.

The RAM process provides key attributes that MAJCOMs can rely on for well-informed financial decisions.¹³ RAM provides

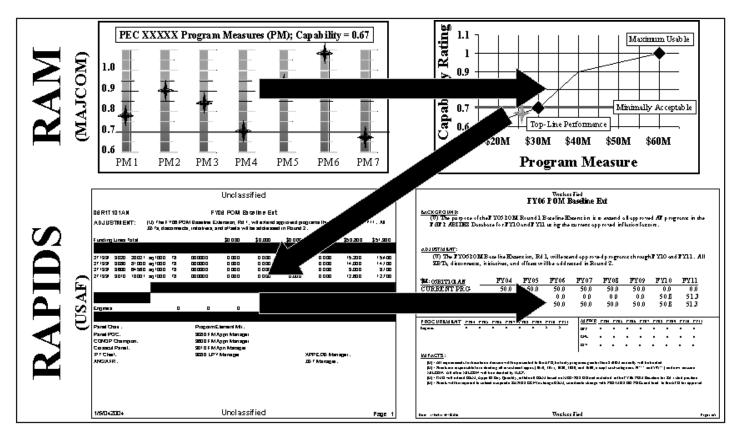


Figure 7. RAM-RAPIDS Submissions Process

MAJCOM budget leadership answers to critical questions based on the PEC's value to the MAJCOM mission, PEC viability, PM support to the program element code, and required cost to fill the shortfall. The desired outcome is a MAJCOM decision to reflow funds within its own budget to meet the need. If the means to fund the shortfall exceed the MAJCOM's budget, then the request goes to Air Force-level as an unfunded requirement.

The keen environment for competing for limited funds is common to both Air Force and MAJCOM levels. The Air Force has a set budget to meet its assigned tasks. Subsequently, the budgets provided to the MAJCOMs are likewise limited. Lead commands (Air Combat Command [ACC] and Air Mobility Command) tend to receive the majority of funding (and bills) while operational commands (United States Air Forces in Europe [USAFE], Pacific Air Forces, and so on) are more limited. Effectively competing for these scarce funds requires objective arguments establishing who needs the funding; what is needed; why it is important to the mission; where the capability will be used; and finally, when the funds are required? The logic summary using both RAM and RAPIDS capturing these arguments and translating them into budgeting language is illustrated in Figure 7. Therefore, capturing the capability of performance measures; combining performance measures to identify PEC viability; detailing the support funding across the FYDP; and finally, proposing a budget change through the RAPIDS process completes the submission.

The opportunity for wings to submit funding shortfall requests is part of the annual budget request process. It is critical for groups (and sometimes squadrons) to establish an open dialog with the MAJCOM program element monitor responsible for managing the affected program element code throughout the year. Effective PEC management begins when the program element monitor understands what the "PEC does for [the MAJCOM] and for the combat air forces."14 The exact timing for this process varies by MAJCOM, but a sample schedule is provided in Table 1.15 The cycle is dependent on Air Force funding schedules, but typically, the MAJCOMs will conduct their PEM Parade in the November timeframe. This is the first level of competition for funds at the MAJCOM and the acid test for the affected PEC's capability argument. MAJCOMs collect available information on the program element codes; then process all budget requests through the remainder of the process; and finally, translate the budget decisions into RAPIDS slides for submission to the Air Forcelevel process.16

Developing Logistics Requirements

Two categories of logistics requirements were considered when researching for this article: wartime and peacetime. Wartime requirements include capabilities necessary to deploy, prosecute the conflict (conduct hostile operations), and redeploy or reconstitute. Peacetime requirements are focused on training the rated and nonrated force by providing enough mission-capable aircraft, equipment, and support structure to meet the ready aircrew program¹⁸ requirements and produce a qualified maintenance workforce. Financial support justification for both categories can come through three different requirements processes: local flying programs, SORTS, and the Aerospace Expeditionary Force (AEF) Unit Type Code (UTC) Reporting Tool (ART).

DATE	ACTION	REMARKS
Sep	POM Kickoff Chaired By MAJCOM Directorate	
Sep	Brief MAJCOM/CC on POM Strategy to Obtain Guidance	
Nov	MAJCOM Dir. Brief Programs to Lead/Other Directorates	PEM Parade (Part I)
Dec	MAJCOM Dir Brief Budget Programs to MAJCOM/CC	PEM Parade (Part II)
Jan	MAJCOM Lead Briefs CSAF and Other MAJCOMs	
Jan	MAJCOM Lead Briefs Air Force Board	
Feb	Air Force Panels Analyze and Integrate MAJCOM Submissions	
Mar	Air Force Board POM Review	
Apr	Air Force Council POM Review	
May	Air Force Delivers POM to OSD	

Table 1. MAJCOM Abridged POM Time Line¹⁷

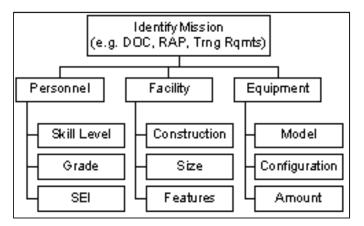


Figure 8. Simplified Requirements Derivation

The process for deriving fundable logistics requirements is illustrated in Figure 8—there is nothing new needed to determine requirements in terms of organization or personnel. Leadership needs to establish a goal for performing the analysis using the maintenance group analysis section in quantifying logistics requirements. The fundamental approach is to establish requirements agreed upon by both the operations group and maintenance group leadership and then have the requirements approved by the wing commander. Once established, these requirements serve as the basis by which capability is measured.

Peacetime Training Requirements

Establishing peacetime training requirements suitable for determining the capability of the group or squadron is driven by the flying and personnel training program. Training in this case is defined as day-to-day flying and related maintenance support required to meet the ready aircrew program and maintenance training programs. Given the variances in primary aircraft assigned (PAA) across the different mission design series aircraft and wings, settling on a standard mission capability (MC) rate as a common basis for discussion, is the most desirable approach.

Evaluating the level of training capability contributed by or subtracted from the required MC rate is a function of not mission capable (NMC) levels. For instance, standardized levels for NMC maintenance, not mission capablesupply, and not mission capable-both (NMCB) are set values within each MAJCOM,20 and exceeding those values impacts the scheduled flying-hour program that supports the training mission. As a matter of logistics purview, the discussion centers on NMC and NMCB. As seen in Figure 9, a sample 24-PAA squadron has standardized the number of aircraft available for the flying schedule (18) and the number set aside for maintenance activities. As in this example, the maintenance activities may include aircraft set aside for programmed depot maintenance (one), wash (one), paint (one), phase (one), cannibalized aircraft (one), and weapons load training (one). A violation of this standard is depicted as the cross-hatched area starting in February, with a variable pattern extending through June where too many aircraft are inducted into maintenance and not enough are available for the flying schedule.

Translating these violations to a RAM-capability scale requires an objective selection of criteria to consider and establish what capability the maintenance unit is providing to the flying unit. The sample criteria in Table 2 categorize very simple logistics-related violation criteria into subject-matter areas. These are weighted in terms of their immediate or long-term effect on aircraft availability for application to the capability definition scale (Figure 10). Further refinement of these criteria allows for selecting specific work unit codes out of each area and assists in assigning various capability impact values for more realistic capability measurement. For the purposes of this article, greater levels of detail fall to the reader for further exploration.

Once senior leadership agrees to the capabilities list and assigned weights, the next step entails breaking down capability to squadron, shop, and section levels. Examining the equipment maintenance squadron (EMS) may reveal critical capability failure points as illustrated in Figure 11. In this case, the fabrication flight has a capability shortfall (Figure 12), within which the aircraft structural maintenance section shows the corrosion control function (or performance measure) as the driver (Figure 13). The causes could be a paint barn in need of upgrades (military construction funding), an environmental compliance assessment and management program equipment shortfall (operation and maintenance [O&M] funding), or a shortage of computer printers (O&M funding). Budget increases are then sought for application at this level of resolution to ensure mission capability.

Peeling the capability levels back to this level does four key things for the funding decision process. First, the fundamental cause of significant drops in capability is identified down to an actionable level. Second, based on its impact, the shortfall can be assigned an objective priority in the funding decision process. Third, the method used to identify the shortfall fits precisely into the RAM budget management methodology. Finally, filling the shortfall is fully retraceable. This means the money allocated to the effort can be traced readily in terms of its effects. An objective analysis of the shortfall example reveals the best points to apply funding and the impact to capability as shown in Figure 14. In these terms, traceability of financial impact is clear.

The importance of traceability cannot be overemphasized. Traceability serves as a measure of credibility used by MAJCOM and Air Force-level budget program authorities to evaluate their decisions. Further, the return on investment illustrated by traceability in each program action serves as lessons learned to either follow a specific funding opportunity or reduce or cease funding altogether. Finally, effective traceability benefits the requesting unit by helping ensure funds are not redirected when they arrive on base but instead are applied to the problem identified to the budget process.

However, analysis of funding effects must consider how the context has changed between the time funds were originally requested and when they were applied. For example, additional equipment issues may have developed during the interim; the operations tempo may have changed, either worsening or easing the shortfall; aircraft may have deployed and increased or lessened the criticality; and finally, more critical shortfalls may have developed and eclipsed the current funding efforts. These possibilities do not usurp funding traceability but do emphasize the importance of accounting for all critical contributors and detractors from mission capability.

Wartime Requirements—SORTS Methodology

General SORTS Process. The formal SORTS process directly establishes and supports wartime readiness-reporting requirements. As described in Air Force Instruction (AFI) 10-201:

SORTS has a threefold purpose: it provides data critical to crisis planning, provides for the deliberate or peacetime planning process, and is used by the Chief of Staff United States Air Force (CSAF) and subordinate commanders in assessing their effectiveness in meeting Title 10, "United States Code," responsibilities to organize, train, and equip forces for combatant commands. All units with an Air Force Personnel Accounting Symbol (PAS) code will be registered in SORTS.²¹

"Regardless of the source of a unit's tasking or the extent of unit capability tasked in operational plans (OPLANS), and so forth,

Violation #	Type Maintenance Issue	Short-Term Impact?	Long-Term Impact?	Weight
1	Delayed Discrepancies	No	Yes	0.1
2	Aircraft Wash	No	Yes	0.1
3	Aircraft Paint	No	Yes	0.2
4	WLT	No	Yes	0.2
5	Phase and Isochronal Inspections	Yes	Yes	0.3
6	Time Change Items	Yes	Yes	0.4
8	Mission Essential List Items	Yes	Yes	0.4

Table 2. Logistics Capability Violation Criteria

SORTS measurement is based on the unit's full wartime requirement for which it was organized or designed. This baseline is reflected in the definition of [the status rating] C-1" (ready for full wartime mission), and SORTS reports are focused on four key baselines of personnel; equipment and supplies on hand; equipment condition; and finally, training.²² SORTS reports are prepared at the wing, submitted to the MAJCOM reporting organization, and monitored by Headquarters Air Force Operational Readiness, who "acts as liaison with the Joint Staff, Office of the Secretary of Defense, Congress, and Air Staff functional area manager for SORTS and related issues."23 This highlights the direct role SORTS plays in gaining the attention of the budget leadership. Air Force Operational Readiness collects the SORTS reports and compiles them into the Quarterly Readiness Report to Congress (QRRC) for submission to the Joint Staff on a monthly and quarterly basis.²⁴ This provides a direct link to Congress, reflecting where shortfalls exist and where

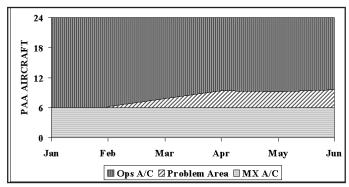


Figure 9. Locally Standardized Aircraft Distribution

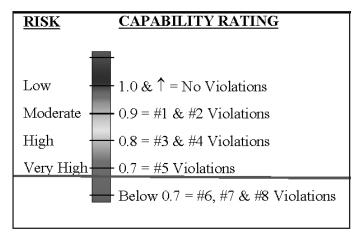


Figure 10. Maintenance Capability Rating Definition

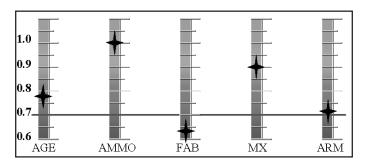


Figure 11. EMS Capability Ratings

funding may be needed. In this process, SORTS captures unit wartime mission readiness; reports readiness status to the MAJCOM, Air Staff, and Joint Staff; and finally, goes to Congress for their consideration in the legislative (and budgeting) process.²⁵

The basis for SORTS reporting and the key document holding direct meaning for group and squadron level commanders is the Designed Operational Capability (DOC) statement. As a function of wartime missions, the DOC is quite clear in capturing the requirements:

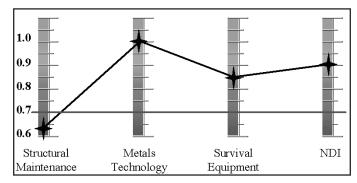


Figure 12. Fabrication Flight Capability Ratings

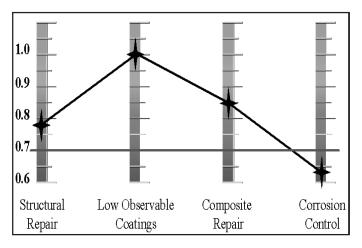


Figure 13. Aircraft Structural Maintenance Section Capability Ratings

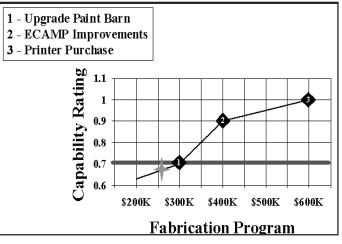


Figure 14. Fabrication Performance Value Assessment

The purpose for a SORTS DOC statement is to provide units with a single-source document of the information necessary and the location of the references specifying resources to measure and report in SORTS. They also provide a narrative description of the unit's wartime mission. All SORTS DOC statements will be completed on a standard or computer-generated AFF [Air Force Form] 723 or an XOOA approved facsimile.²⁶ (Figure 15)

Establishing logistics DOCs within each MAJCOM and wing can be achieved through procedures established in Air Force and MAJCOM instructions. As witnessed in USAFE, the preponderance of DOC statements are written for operational, not logistics squadrons. USAFE/LGW* recently changed this absence of logistics DOCs when it submitted DOC statements for the USAFE Logistics Commander's approval describing the

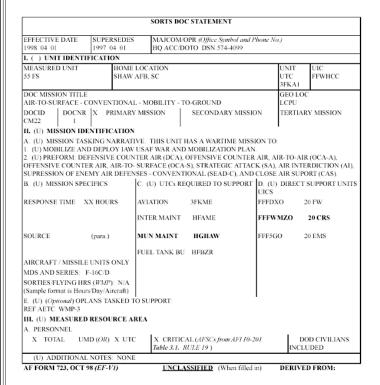


Figure 15. AFF 723, SORTS DOC Statement

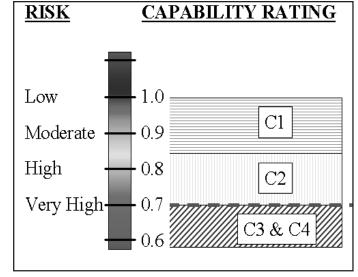


Figure 16. RAM Capability Using C-Ratings

wartime mission of war reserve materiel conventional munitions in support of the command's assigned OPLANs. In accordance with AFI 10-201, USAFE Sup 1,27 The USAFE Logistics Commander approved the DOC statements, providing clear insight into the readiness of command conventional munitions to support assigned OPLAN operations. USAFE munitions readiness is now part of the SORTS process with readiness visibility being reported to both the Joint Staff and Congress. AFI 10-201, ACC Sup 1,28 likewise provides authority to the logistics commander (or appropriate director) for DOC approval. The key is to determine the required personnel; equipment condition; equipment and supplies on hand; and finally, the training requirements to establish an effective baseline for adequate mission support. Once this baseline is established, readiness reporting is simply a function of how well each of these baselines is supported. In this same vein, shortfalls are identified, presenting a sound opportunity for funding to play a role.

SORTS and the RAM Process. SORTS provides a clear opportunity to establish meaningful performance measures and convey where the funding opportunities lie to improve capability. Starting with Figure 16, set values can be assigned to each capability measure on a one-to-one basis with the C-ratings. Similar to the peacetime requirements, specific program element code and PM-based capability profiles can be developed to highlight which squadron, flight, or section is driving the lowered rating (Figures 11 through 13), ending with submission through the RAPIDS process to fill capability and funding shortfalls (Figure 17).

SORTS provides visibility of capability shortfalls across a spectrum of funding sources. First, SORTS highlights the wartime readiness issues throughout the Air Force, starting at the unit level and progressing up to the Chief of Staff. Second, through the QRRC process, component commanders and the Joint Staff are informed of capability shortfalls. In fact, these shortfalls can be reflected on a component commander's integrated priority list as a means of emphasizing the importance of the issue to Joint Staff oversight. Third, the MAJCOM's QRRC submission will go before Congress, whether or not the issue is included in the integrated priority list. The end result is the SORTS process raises capability shortfall issues into the joint and congressional arenas for full consideration of the implications for future and current combat operations.

Wartime Requirements—ART Methodology

General ART Process. The system to organize the Air Force into an expeditionary force is already fully in place.

The expeditionary aerospace force concept is how the Air Force organizes, trains, equips, and sustains itself by creating a mindset and cultural state that embraces the unique characteristics of aerospace power—range, speed, flexibility, and precision—to meet the national security challenges of the 21st century. The concept has two fundamental principles: first, to provide trained and ready aerospace forces for national defense and, second, to meet national commitments through a structured approach which enhances Total Force readiness and sustainment.²⁹

The EAF is organized into:

...aerospace expeditionary forces; dedicated on-call aerospace expeditionary wings (AEW); lead mobility wings (LMW); and required air operations center (AOC) and Air Force Forces (AFFOR) command and control (C2) elements. Available Air Force

UTCs have been aligned equitably across ten AEF libraries so each possesses roughly equal capabilities. These libraries provide a composite of capabilities from which force packages are developed and tailored to meet mission requirements.³⁰

As mission requirements dictate, "specifically tailored forces are presented to theater commanders as aerospace expeditionary task forces (AETF)."31

The ART has been developed and implemented to capture the readiness of units to support the EAF and the underlying AEF construct. In accordance with AFI 10-244, the ART reports the health of the ten AEFs, LMWs, and enablers. ART uses the UTCs as building blocks to provide Headquarters Air Force, Air Force component commanders, MAJCOMs, and the AEF Center readiness information to employ, manage, and sustain EAF operations. It also "provides units a mechanism to report a UTC's ability or inability and associated deficiencies in fulfilling its mission capability statement across the full spectrum of operations, to include contingency and steady-state operations." Finally, it "provides information to aid resource allocation and tasking decisions during steady-state and crisis actions." This reporting system takes advantage of existing capability reporting:

ART complements readiness data reported in Status of Resources and Training Systems (SORTS). ART focuses reporting on the modular scalable, capability-based UTCs designed to meet the needs of the 21st century force while SORTS is unit-centric with reporting based on major war (MW) commitments. The basis for both systems is the Air Force-Wide UTC Availability and Tasking Summary (AFWUS). The tasking baseline contained in ART is derived from the AEF time-phased force deployment data (TPFDD) library, which supports the full spectrum of operations. Readiness assessments for MW and AEF taskings must be considered together; however, the reporting guidelines for each may be independent. A unit's C-level, as reported in SORTS, may not directly correlate to its ability to support a specific UTC tasking as indicated in ART.³⁴

ART and SORTS share some common justification through the DOC process. As described in AFI 10-244, the "UTC readiness assessment is based on resources that are expected to be mission ready within their [assigned] DOC response time." Since the DOC is key to both SORTS and ART, the importance of developing logistics DOCs is a common goal for establishing a solid foundation for future funding efforts. The key difference between ART and SORTS, with respect to financial potential, is the size of the budget audience. ART is strictly an Air Force tool and is not used in the joint world. ART reports are not submitted to component commanders, the Joint Staff, or Congress.

Since the audience is limited, so too are the potential sources of funding. ART reports are submitted monthly and follow the chain of command through the wing, numbered air force, MAJCOM, and up to the Chief of Staff. This means ART can be used to highlight issues and possibly make the case for scarce funding support³⁶ within the Air Force budgeting system with no consideration from component commander, Joint Staff, or congressional budget leadership.

Reporting UTC viability within ART is accomplished through color-coded reports. As defined in Table 3, the green/yellow/red system quickly conveys UTC readiness to meet the mission. The bottom line is ART can be an effective means for capturing capability and identifying funding shortfalls with the understanding that it can be used only within Air Force confines.

ART and the RAM Process. ART also provides a clear opportunity to establish meaningful performance measures and where to improve capability. Starting with Figure 18, set values

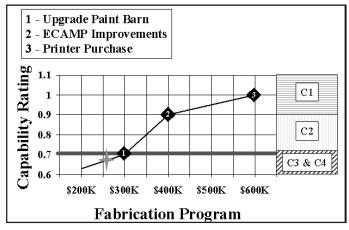


Figure 17. RAM Performance Value Assessment—SORTS Based

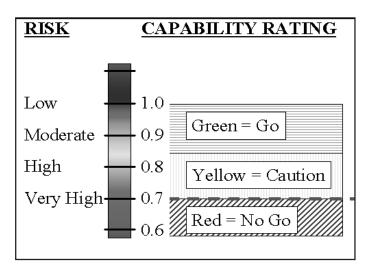


Figure 18. RAM Capability Using ART Color Ratings

Color	Description	Definition
Green	Go	All MEFPAK (MANFOR, LOGFOR) identified personnel, equipment, and training for the AEF allocated UTC are available for deployment within 72 hours of notification or sooner if subject to more stringent criteria.
Yellow	Caution	The UTC has a missing or deficient capability, but that missing or deficient capability does not prevent the UTC from being tasked and accomplishing its mission in a contingency or AEF rotation.
Red	No Go	The UTC has a missing or deficient capability that prevents the UTC from being tasked and accomplishing its mission in a contingency or AEF rotation.

Table 3. Logistics Capability Violation Criteria

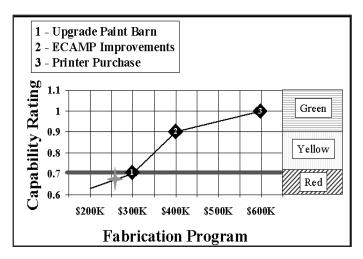


Figure 19. RAM Performance Value Assessment—ART Based

can be assigned to each capability measure on a one-to-one basis with the reported color-coded assessment. Similar to the peacetime requirements, specific program element code and PM-based capability profiles can be developed to highlight which squadron, flight, or section is driving the lowered rating (Figures 11 through 13) ending with submission through the RAPIDS process to fill capability and funding shortfalls (Figure 19).

Conclusions

The answer to the question "Can a method be developed to assist squadron and group logistics commanders to secure required mission funding" is an emphatic yes. Squadrons and groups must invest time and thought to compete effectively for funding resources at the MAJCOM, Air Force, and DoD levels. In other words, they spend the *time* to determine the requirements necessary to support the peacetime and wartime missions as well as the *thought* in applying the financial resources in a traceable manner. The key is to establish the fundamental requirements supporting the peacetime and wartime missions. When established, the requirements clarify not only the shortfalls identified from the logistics perspective but also mission impact to senior leadership. Once leadership understands the implications to the mission, more effective prioritization of resources throughout the unit is achieved more easily.

All the resources and processes for determining requirements, shortfalls, and a way ahead are available. DOCs (or the means to create them), analysis (from the Analysis section), readiness reporting (through SORTS or ART), funding requests (through the POM or other means), and traceability (to track effectiveness and seek further funding) combine to form an effective budget

justification system. This is available to any commander who is ready to take resource management to a higher level and fund the first priority of the position: organize, train, and equip.

Notes

- AFI 10-244, Reporting Status of Aerospace Expeditionary Forces, 19 Feb 02, 16
- 2. AFI 10-244, 16.
- Michael A. Greiner, Kevin J. Dooley, Dan L. Shunk, Ross T. McNutt, "An Assessment of Air Force Development Portfolio Management Practices," *Defense Acquisition University*, Acquisition Review Quarterly, Spring 2002, 127 [Online] Available: http://www.dau.mil/ pubs/arq/2002arq/DoolySP2.pdf.
- 4. DoD Directive 7045.14, The Planning, Programming, and Budgeting System, 22 May 84.
- "06 POM JIT Master Briefing," AF/XPPE, 15 Jan 04 [Online] Available: http://www.xp.hq.af.mil/XPP/XPPTraining/XPP_Training_ Page.htm.
- 6. Ibid.
- 7. Greiner, et al, 127.
- 8. HQ USAFE/XPP, USAFE POM Handbook, Jun 01, 35.
- 9. USAFE POM Handbook. 35.
- 10. USAFE POM Handbook, 37.
- 11. USAFE POM Handbook, 41.
- 12. USAFE POM Handbook, 36.
- 13. USAFE POM Handbook, 35-39.
- 14. USAFE POM Handbook, 41.
- 15. USAFE POM Handbook, 26-27.
- 16. USAFE POM Handbook, 4-42.
- 17. USAFE POM Handbook, 26-27.
- 18. AFI 11-102, Flying Hour Program Management, 5 Apr 02, 5.
- AFI 21-101, Aerospace Equipment Maintenance Management, 1 Oct 02, 24.
- ACC Instruction 21-118, Logistics Maintenance Performance Indicator Reporting Procedures, 10 Feb 03, 15
- 21. AFI 10-201, Status of Resources and Training System, 12 Dec 03, 8.
- 22. AFI 10-201, 9-10.
- 23. AFI 10-201, 20.
- 24. AFI 10-201, 20. 25. AFI 10-201, 8.
- 26. AFI 10-201, 13.
- AFI 10-201, USAFE Sup 1, Status of Resources and Training System,
 Mar 01, 2.
- 28. AFI 10-201, ACC Sup 1, Status of Resources and Training System, 12 Jun 01, 4.
- AFI 10-244, Reporting Status of Aerospace Expeditionary Forces,
 19 Feb 02, 4.
- 30. AFI 10-244, 4.
- 31. *Ibid*.
- 32. AFI 10-244, 5.
- 33. *Ibid*.
- 34. AFI 10-244, 6.
- 35. AFI 10-244, 13.
- 36. Ibid.

Major West is Commander, 1 CMS, Langley AFB, Virginia. At the time of the writing of this article, he was a student at the Air Command and Staff College (ACSC), Maxwell AFB, Alabama. Major Pohlman is an ACSC faculty member.



Character is what you are. Reputation is what others think you are. The reason that some fail to climb the ladder of success, or of leadership if you want to call it that, is that there is a difference between reputation and character. The two do not always coincide. A man may be considered to have sterling character. Opportunity might come to that man; but if he has the reputation for something he is not, he may fail that opportunity. I think character is the foundation of successful leadership.

-Major General Lucien Truscott



Coming in Future Issues

- Agile-Combat Support Studies
- Supply Chain Management
- Key Logistics Problems Analysis

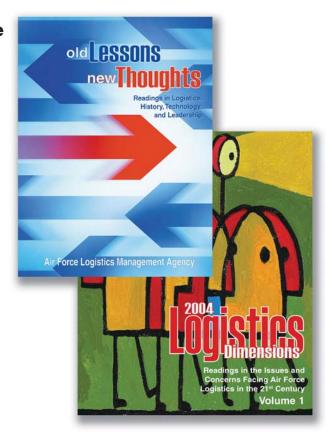
NEW!

Available Now

New Monographs:
What You Need,
When You Need It!

Our newest books and monographs have been produced with the style and quality you've come to expect—a high-impact format that gets and keeps your attention. If you're used to seeing or thinking of products of this type as colorless and dry, you'll be more than surprised. Old

Lessons, New



Thoughts and 2004 Logistics Dimensions, Volumes 1 and 2 are available now.

Volume XXVIV, Number 1 Spring 2005